



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/748,166

12/27/2000

Shunpei Yamazaki

0756-2235

4117

31780

7590

09/12/2002

ERIC ROBINSON
PMB 955
21010 SOUTHBANK ST.
POTOMAC FALLS, VA 20165

EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/748,166

Applicant(s)
Yamazaki

Examiner
Dung Nguyen

Art Unit
2871



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 24, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 109-140 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 109-140 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 21 6) ☐ Other:

Art Unit: 2871

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/24/2002 has been entered.

Applicant's amendment dated 06/24/2002 has been received and entered.

Claim Objections

1. Claims 109-140 are objected to because the all abbreviated term (e.g., EL) needs to be defined before any abbreviation is introduced. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 109-116 and 121-128 and newly added claims 133-140 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al., US Patent No. 5,550,066, in view of Kondo et al., US Patent No. 5,117,299, as stated in the final office action.

Regarding claims 109-111, 113-115, 121-123, 125-127, 133-135 and 137-139, Tang et al. discloses, in figure 3, an electroluminescence display comprising at least one thin film transistor

Art Unit: 2871

(T1) formed over a substrate (102), a first insulating layer (42), a second insulating layer (layer formed between 41 and ITO), a pixel electrode (ITO) and a light-emitting layer (82).

However, Tang et al. fails to disclose an organic resin based material for the first insulating layer as well as a diamond like carbon (DLC) material for the second insulating layer. Kondo et al. disclose that the hard carbon film which is diamond-like carbon film having SP^3 bonds (Fig. 2 and 3) can be used as the insulator layer (column 4, line 27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the interlayer insulating by using carbon film which can be used as a light blocking layer, in order to provide the LCD device of low cost with no picture quality deterioration (column 2, line 41-44). In addition, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an organic resin (e.g., polyimide, acryl resin) based material for the insulating layer as the insulating layer because the use of one conventional material over another merely depends on the desire of the manufacturer and/or the availability and practicality of the material for the chosen manufacturing process.

Regarding claims 112, 116, 124, 128, 136 and 140, the modification to Tang et al. disclose the claimed invention as described above except for the application of the display in a portable information processing terminal, a head mount display, a projector, etc. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a display as the display in a portable information processing terminal, a projector, etc, since it is

Art Unit: 2871

commonly used in display devices which have limited battery lifetimes in order to reduce power consumption.

Double Patenting

9. Claims 109-132 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 90-91 and 97 of U.S. Patent No. 6,115,090. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the patent and the application disclose the same display device.

10. Claims 109-132 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 8 of copending Application No. 09/295,397. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications disclose the same display device.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

4. Applicant's arguments filed 09/26/2001 have been fully considered but they are not persuasive as note below:

Art Unit: 2871

103 Rejection:

Regarding claims 109-116 and 121-128, in response to applicant's argument that there is no suggestion to combine the references since the DLC insulating layer of the present invention is provided in addition to the switching device, while the hard carbon film of Kondo is provided as a part of the switching device (amendment, page 5), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the Kondo et al. reference to use a DLC film as an insulating layer in the Tang et al. device to produce the claimed invention in order to provide the LCD device with no picture quality deterioration (Kondo et al., column 2, line 41-44). In other words, it is not a matter of providing "as a part" or "in addition", the modification to the Tang et al. device is taking an advantage of an DLC film as an insulating layer as shown by Kondo et al. Therefore, one of ordinary skill in the art would merely find the benefit of using an DLC film as an insulating layer in a display device. In addition, regarding claims 113 and 115, Applicant contend that the silicon nitride layer is not disclosed or suggested in either Tang or Kondo (amendment, page 6). The Examiner agrees; however, the use of silicon nitride (instead of silicon dioxide) as an insulating film in a display device is well known in the display art (see US 4,705,358, col. 1, ln 55). Therefore, it would have been obvious to one skilled in the art to modify the Tang et al. silicon dioxide insulating film by silicon nitride film since it is a common practice in the art to use of one conventional material over another merely depends on the desire of the manufacturer.

Art Unit: 2871

Accordingly, the rejection of claims 109-116, 121-128 and newly added claims 133-140 stand.

Double Patenting Rejection:

Regarding claims 109-128, Applicant contends that claims 90-91 and 97 of US 6,115,090 do not disclose the composition of the light-emitting layer and the DLC film (amendment, page 6). The Examiner respectfully disagrees with the applicant's viewpoint. It should be noted that it is obviousness to use a display device as a liquid crystal (i.e., liquid crystal layer) or an electroluminescent (i.e., light-emitting layer). Therefore, one skilled in the art would find a display device in the '090 patent and an EL display device in the present invention being the same as well.

Accordingly, the double patenting rejection stand.

Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. .

Art Unit: 2871

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dung Nguyen whose telephone number is (703) 305-0423. The fax phone number for this Group is (703) 308-7726.

Any information of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-0956.

DN
09/06/2002


William L. Sikes
Supervisory Patent Examiner
Group 2871